

# **HUTCHINSON COUNTY ROAD SAFETY AUDIT REVIEWS June 12, 2002**

**Audit Team:** Cliff Reuer, Traffic & Safety Engineer, SDDOT  
Brian Weber, Assistant McCook County Highway Superintendent  
Ken Skorseth, Field Services Manager, SDLTAP  
Roland Stanger, Traffic/Safety Engineer, FHWA

## **County Road 28 from County Road 13 to junction with County Road 30:**

This roadway was classified for the purposes of the RSA as a Rural Major High-speed and has a paved surface. The roadway has a posted speed limit of 55 mph. For the purposes of the audit the location information is referenced from the east end of the job (mp 0.0) increasing by miles heading west. Following are the findings and recommendations of the RSA team:

### **The following items were identified as areas where immediate safety improvements should be made:**

- At mp 1.4 (left), westbound approach has no control – add STOP sign.
- At mp 1.6 westbound, there is a NO PASSING ZONE sign but centerline is a skip. There is a vertical curve ahead; therefore it appears the sign is correct and the marking should be changed to solid line.

### **The following items were identified as areas where low cost improvements could have a positive impact on safety and should be considered in a reasonable period of time:**

- At mp 0.7 (right), replace Curve sign with Reverse Curve sign.
- At mp 0.75 – 1.0 (right), this curve has both Chevrons and delineation – recommend removing chevrons and adding delineators on both ends per MUTCD. If Chevrons are desired, at least two Chevrons need to be in headlights through out curve.
- At mp 0.8 (right), change westbound YIELD to STOP sign.
- At mp 0.8 (right), on eastbound gravel road add T intersection sign.

- At mp 1.1+ (right), remove Curve and Advisory Speed Plaque signs.
- At mp 1.2 (left), remove Curve and Advisory Speed Plaque signs.
- At mp 1.2+ (left), bring northbound approach up to pavement.
- At mp 1.2+ (right), post that marks the end of the no passing zone should be moved further from roadway.
- At mp 1.3 (right), short section of shoulder drop off - needs maintenance.
- At mp 1.6 (left), replace Curve sign with Reverse Curve sign.
- At mp 2.2 (right), maintenance at approach needed.
- At mp 2.4, install Type 2 Object Marker on both ends of culvert.
- At mp 2.5 (right), remove DANGEROUS SHOULDER sign.
- At mp 2.6 (right), add Curve sign
- At mp 2.7 (right), Bridge Weight Limit sign missing – install.
- At mp 2.9 (right), approach low – raise.
- At mp 2.9 (left), Bridge Weight Limit sign needs to be replaced.
- At mp 4.5 (left), YIELD signpost appears that it needs to be drilled to be crashworthy.
- At mp 5.4 (right), change YIELD to STOP sign.
- At mp 5.6 (right), YIELD signpost appears that it needs to be drilled to be crashworthy.
- Many signs appear low and retroreflectivity questionable – need sign maintenance.
- Delineator maintenance needed, particularly through curves.
- There were a few mailboxes throughout the project, although none appeared to be extremely hazardous, most did not appear to be crashworthy (see SDDOT standard plate on mailboxes for specific information). It is recommended that the county work with the landowners to get crashworthy mailboxes and turnouts where appropriate.

**The following items were identified as high cost improvements that should be considered as funds become available for a major rehabilitation or reconstruction of the roadway:**

- At mp 0.8 (right), this intersection should be reconstructed to provide a single point of intersection on the outside of the curve.
- At mp 1.2+ (left), this intersection should be reconstructed to provide a single point of intersection on the outside of the curve.
- At mp 2.4, extend culvert beyond clearzone.
- From County Road 11 to past structure – cover riprap within clearzone with soil.

## **County Road 11 from State Route 44 to junction of County Route 9:**

This roadway was classified for the purposes of the RSA as a Rural Minor, Medium Speed. The roadway is a gravel surface and currently is not posted. For the purposes of the audit the location information is referenced from the south end of the job (mp 0.0) increasing by miles heading north. Following are the findings and recommendations of the RSA team:

### **The following items were identified as areas where immediate safety improvements should be made:**

- At mp 0.05 (right), add SPEED LIMIT 45 MPH.
- At mp 0.2 (right), move westbound YIELD sign west to about 40 feet east of current Double Arrow.
- At mp 1.25 (left), add SPEED LIMIT 45 MPH.

### **The following items were identified as areas where low cost improvements could have a positive impact on safety and should be considered in a reasonable period of time:**

- At mp 0.1+ (right), add Reverse Curve and Advisory Speed Plaque. The curve will need to be ball banked to determine speed of Plaque.
- At mp 0.2 (right), add a YIELD sign for westbound at ramp.
- Rumble strips well placed.
- At mp 0.2 (right), replace Double Arrow with Large Arrow (W1-6).
- At mp 0.2, install Type 2 Object Markers for culvert.
- At mp 0.2+ (right), install Type 2 Object Marker on fence post close roadway.
- At mp 0.2+ (left), replace Double Arrow with Large Arrow (W1-6).
- At mp 0.25 (left), add Reverse Curve and Advisory Speed Plaque. The curve will need to be ball banked to determine speed of Plaque.
- From mp 0.25 – 0.65, fence close to roadway - consider delineation.
- At mp 0.4, install Type 2 Object Markers for culvert.
- At mp 0.6, install Type 2 Object Markers in each corner of multi culvert.
- At mp 0.7 (right), remove few rocks.
- At mp 1.0 (left), remove fence post in right-of-way.
- Reshape roadway at intersection with County Route 9.

**The following items were identified as high cost improvements that should be considered as funds become available for a major rehabilitation or reconstruction of the roadway:**

- At mp 0.2 (right), remove eastbound ramp.

**County Road 9 from County Route 22 south to junction with State Route 44:**

This roadway was classified for the purposes of the RSA as a Rural Major High-speed and has a paved surface. The roadway has a posted speed limit of 55 mph. For the purposes of the audit the location information is referenced from the north end of the job (mp 0.0) increasing by miles heading south. Following are the findings and recommendations of the RSA team:

**The following items were identified as areas where immediate safety improvements should be made:**

- None Identified

**The following items were identified as areas where low cost improvements could have a positive impact on safety and should be considered in a reasonable period of time:**

- At mp 0.3 replace delineators with Type 2 Object Markers on both sides.
- 
- At mp 0.4 (right), determine if Cattle Crossing signs are warranted. If yes, replace sign but remove education plaque; otherwise remove sign.
- At mp 0.7(left), Cattle crossing – same recommendation as at mp 0.4.
- At mp 0.9, replace delineators with Type 2 Object Markers on both sides.
- At mp 1.0, reshape intersection.
- At mp 1.9, install back-to-back delineation on both sides.
- At mp 2.0 (right), continue delineation south another 500 to 600 feet.
- At 2.3 (right), fill wash in southwest corner of structure.
- At 2.4 (right), remove dead fallen tree.
- At 2.6 (right), add Curve sign with Advisory Speed Plaque. Use ball bank to determine speed.
- At 2.9 (left), add Curve sign with Advisory Speed Plaque. Use ball bank to determine speed.

- At 3.2 (right), add Curve sign with Advisory Speed Plaque. Use ball bank to determine speed.
- At mp 3.6 (right), continue delineation through curves.
- At mp 3.7, remove Reverse Curves from both sides of road.
- At mp 4.0 (left), replace Curve sign with Winding Road sign and Advisory Speed Plaque. Use ball bank to determine speed.
- Many signs appear low and retroreflectivity questionable – need sign maintenance.
- Delineation needs maintenance through out section.

**The following items were identified as high cost improvements that should be considered as funds become available for a major rehabilitation or reconstruction of the roadway:**

- At mp 1.9, slope flatten.

#### **County Road 24 from State Route 18 to junction with County Route 3:**

This roadway was classified for the purposes of the RSA as a Rural Major, Medium Speed. The roadway is a paved surface and the posted speed limit on the roadway was 55 mph. For the purposes of the audit the location information is referenced from the north end of the job (mp 0.0) increasing by miles heading south. Following are the findings and recommendations of the RSA team:

**The following items were identified as areas where immediate safety improvements should be made:**

- None identified.

**The following items were identified as areas where low cost improvements could have a positive impact on safety and should be considered in a reasonable period of time:**

- At mp 0.05 (left), Stop Ahead sign appears low – raise.
- At mp 0.2 (left), electric fence is on right-of-way – work with owner to fence off right-of-way.
- At mp 0.3

- (right), STOP sign post appears that it needs to be drilled to be crashworthy.
- Paint island to better square traffic up with intersection.

**The following items were identified as high cost improvements that should be considered as funds become available for a major rehabilitation or reconstruction of the roadway:**

- At 0.3, this intersection should be reconstructed to “T” it up with County Route 3.

### **County Road 3 from Tripp city limits north to County Route 33:**

This roadway was classified for the purposes of the RSA as a Rural Major High-speed and has a paved surface for first 2.5 miles and is gravel there after. The roadway has a posted speed limit of 55 mph. For the purposes of the audit the location information is referenced from the south end of the job (mp 0.0) increasing by miles heading north. Following are the findings and recommendations of the RSA team:

**The following items were identified as areas where immediate safety improvements should be made:**

- At mp 0.0 (right), trim trees.
- At mp 0.05 (right), Curve sign needs maintenance.
- At mp 0.4 (right), need NO PASSING ZONE sign.
- At mp 2.5 (left), remove old double yellow centerline that continues east of radius.

**The following items were identified as areas where low cost improvements could have a positive impact on safety and should be considered in a reasonable period of time:**

- At mp 0.5, install Type 2 Object Marker for both ends of box culvert.
- At mp 0.6 (left), Stop Ahead sign is low – replace with Stop Ahead symbol sign at proper height.

- At mp 0.6 (left), replace northbound YIELD sign with STOP sign and move sign north closer to asphalt.
- At mp 1.5,
  - Replace delineators with Type 2 Object Markers on both sides.
  - Replace YIELD signs with STOP signs.
- At mp 1.8, replace delineators with Type 2 Object Markers on both sides.
- At mp 2.4 (right), remove Curve sign.
- At mp 2.5 (left), remove radius and pave intersection
- At mp 3.2, reshape high approaches.
- At mp 3.5,
  - (right) Install Type 2 Object Markers for head walls on both sides of 283<sup>rd</sup> St.
- Replace YIELD signs with STOP signs.
- Many signs appear low and retroreflectivity questionable – need sign maintenance.

**The following items were identified as high cost improvements that should be considered as funds become available for a major rehabilitation or reconstruction of the roadway:**

- At mp 0.6 (left), remove gravel road south to state highway.

### **County Road 38 from 406<sup>th</sup> St to junction with State Route 37:**

This roadway was classified for the purposes of the RSA as a Rural Minor High-speed and has a paved surface. The roadway has a posted speed limit of 55 mph. For the purposes of the audit the location information is referenced from the west end of the job (mp 0.0) increasing by miles heading east. Following are the findings and recommendations of the RSA team:

**The following items were identified as areas where immediate safety improvements should be made:**

- At mp 0.0,
  - Remove NO PASSING ZONE sign from back of southbound STOP sign.
  - Add 4-WAY Plaques to all STOP signs.

- At 0.0 east, add no passing markings and NO PASSING ZONE sign per MUTCD warrants. The NO PASSING ZONE sign should be off set as not to obscure STOP sign.
- At mp 0.6 (right), RC pipe has separated near roadway edge – repair.

**The following items were identified as areas where low cost improvements could have a positive impact on safety and should be considered in a reasonable period of time:**

- At mp 0.0,
  - Remove NO PASSING ZONE sign from west side of intersection.
  - (right) Continue no passing zone south of intersection for northbound traffic and sign.
  - (left) Remove unwarranted no passing zone for southbound traffic.
- At mp 0.05 (left), remove PAVEMENT ENDS sign.
- At mp 1.0, replace YIELD signs with STOP signs.
- At mp 1.4,
  - (right), End section of cattle pass has separated
  - Install Type 2 Object Markers for cattle pass. (?)
  - Add delineation through section.
- At mp 1.4+, eastbound no passing zone from top of hill not needed.
- At mp 1.7 (left), install Type 2 Object Markers for culvert.
- At mp 2.0,
  - Replace YIELD signs with STOP signs.
  - Install Type 2 Object Markers for culvert.
  - Clean out culvert, nearly plugged.
- At mp 3.0, replace YIELD signs with STOP signs.
- At mp 4.0, replace YIELD signs with STOP signs.
- Many signs appear low and retroreflectivity questionable – need sign maintenance.
- Section should be restriped.

**The following items were identified as high cost improvements that should be considered as funds become available for a major rehabilitation or reconstruction of the roadway:**

- At mp 1.4, slope flatten
- At mp 2.0, extend culvert out of clearzone.



### **County Road 9 from County Route 33 south to State Route 18:**

This roadway was classified for the purposes of the RSA as a Rural Major High-speed and has a paved surface. The roadway has a posted speed limit of 55 mph. For the purposes of the audit the location information is referenced from the north end of the job (mp 0.0) increasing by miles heading south. Following are the findings and recommendations of the RSA team:

**The following items were identified as areas where immediate safety improvements should be made:**

- At mp 3.7 (right), NO PASSING ZONE sign is undersized - replace.

**The following items were identified as areas where low cost improvements could have a positive impact on safety and should be considered in a reasonable period of time:**

- At mp 0.3 (right), remove mailbox from vacant home.
- At mp 0.9, replace delineators with Type 2 Object Markers on both sides.
- At mp 1.0, replace YIELD signs with STOP signs.
- At mp 2.0, replace YIELD signs with STOP signs.
- Many signs appear low and retroreflectivity questionable – need sign maintenance.

**The following items were identified as high cost improvements that should be considered as funds become available for a major rehabilitation or reconstruction of the roadway:**

- None identified.